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FIG. 1

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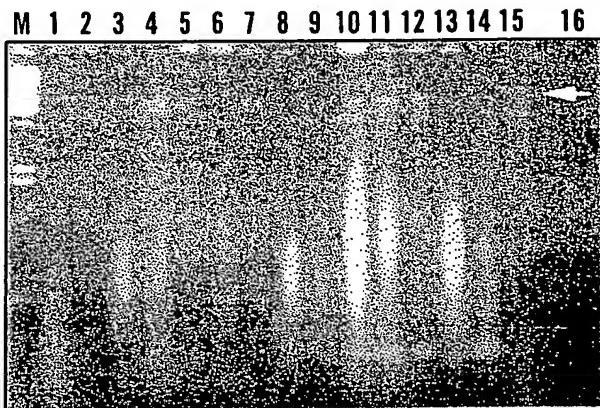


FIG. 2A

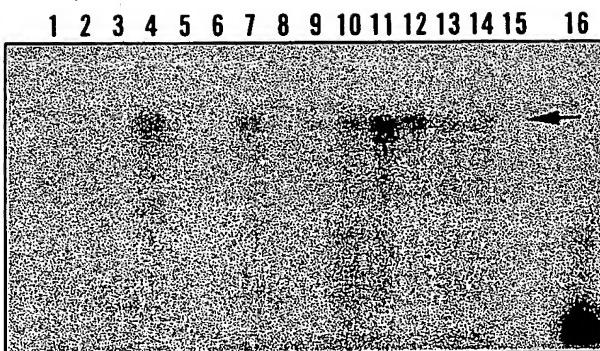


FIG. 2B

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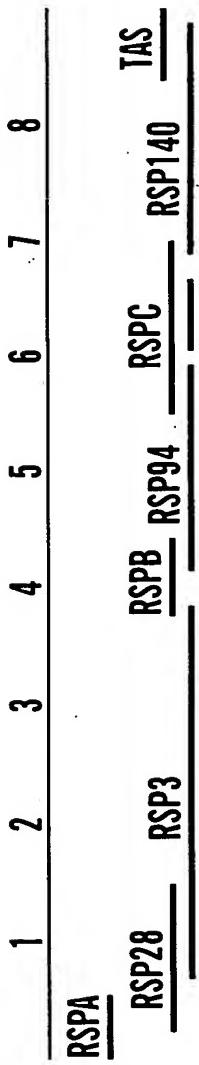


FIG. 3A

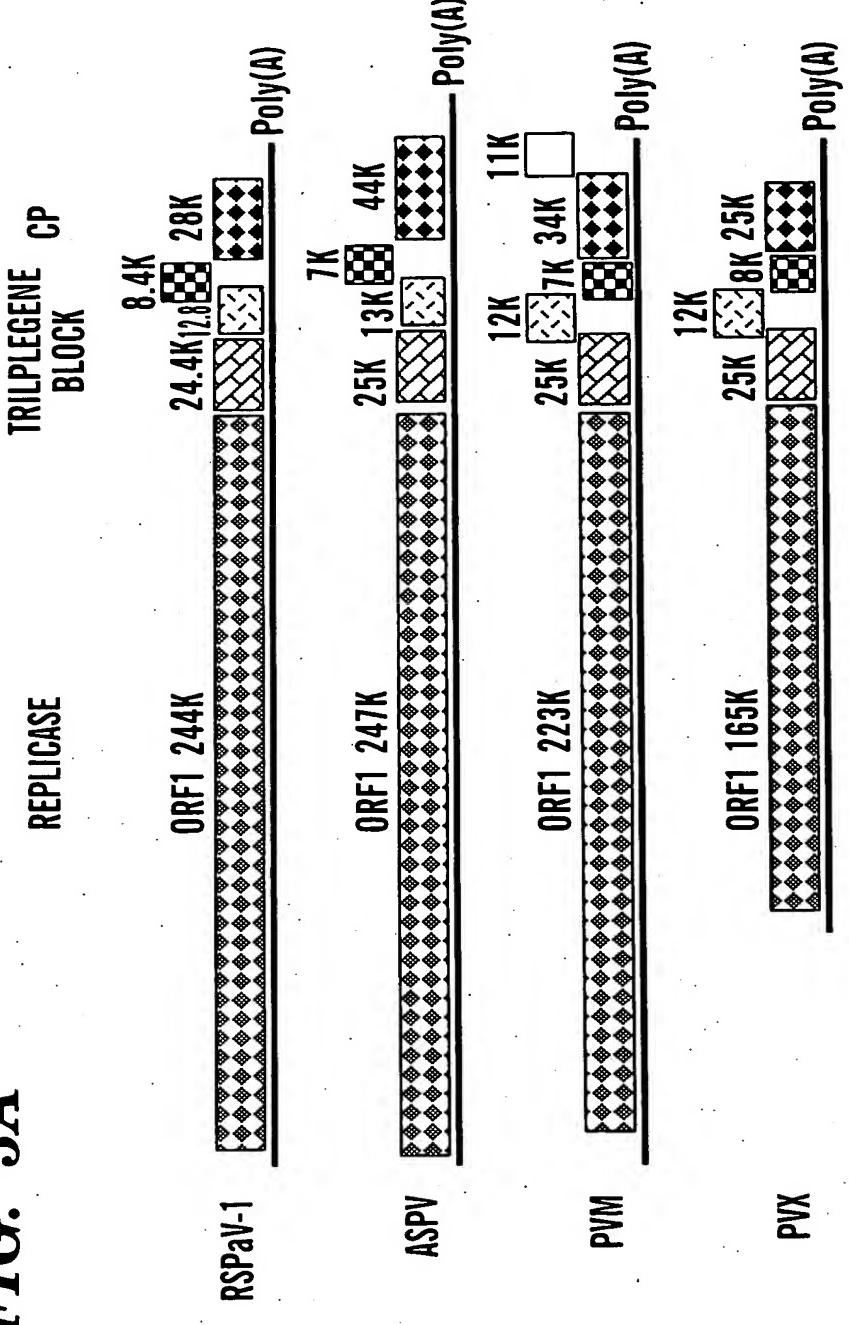


FIG. 3B

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MA* # R. * E* * . F* . * Q* * . * A. * . * E# . * L* . * K. * L. . * GI YLSPS#S. **
 (1) MAVT YRTPMEDI VNCFE. PATQAVI ANSAATLYKNFEE NH CQYFNY. LSPLAKRKLSMAGI YLSPYSAVV
 (1) MALLSRTAAEEVI ASFT. SEEQSRI STQAVLALTNEKDKHDLFNYALPELAKMRLFNSGI YLSPHSYRP
 (1) MALS YRPAVEEVLAKEFT. SDEQSRVSATALKALVDLEESQHNLFSFALPDRSKERLISSGI YLSPYSFRP

Consensus PVM Rep-I ASPV Rep-I RSPaV-I Rep-I
 HSHPVCKTLENYILYVLPSYI. NSSSFYFVGIKERKLQLLKSKCKNLDSVQVVNRVVTSDRMRYTNDVF
 HSHPVCKTLENNILFNI LPSYI. DNSFYLVSI KKNKVDFLKRRHPDLQMVETINRYISSIDKTRYGGFFH
 HSHPVCKTLENHILYNVLPSYV. NSSSFYFVGIKDFFKLQFLKRRNKKDSLVALINRFVTSRDVSRYGSEFV

Consensus PVM Rep-I ASPV Rep-I RSPaV-I Rep-I
 Consensus PVM Rep-I ASPV Rep-I RSPaV-I Rep-I

* S. * . * # C. # - D. . L# . L# * . * # # F. HDE. HYW# . . LI . * FLD# . * P. . # L# *
 PYGS... YEHECLVHKGVGLDNEALRGLVGPLRRLHKA KNLFFHDELHYWS SKVLI D. FLDVMRPDKLLGT
 VSPSKI SAKFKCDRRTGF. DDASLIDLIPGCMEGARKRFFFHDELHYWTKEALIT. FLDHVKP EVMLAS
 ISSSDKSSQVVS.. RKKGIG. DSNTLRRLVPRVI STGARNLFLHDEI HYWSISDLIN. FLDVAKPSMLLAT

V. PPE. L. G. ESLNPW. Y. Y. I. G. L. F. PDG. . E. Y. QPL. . YLL. ARS. LPDG. . Y. VD. .
 VVYPPELLFKPTRSLNEWCYTYDI VGDTLMF FP DGVQSEGYQQLKGCGYLLGARSLSKLPDGTVYMMVDVL
 I VFPPPEILAGAKESLNPWCYTFRIVGKDLVFPDGEQSEAYI QPVAGSYLLRTGKITTSGDI FQLDLLK
 AVI PPEVLVGSPESLNPWAYQYKI NGNQLLFAPDGNWNEMYSQPLSCRYLLKARSVVLPGDSRYSVDI IH

Consensus PVM Rep-I ASPV Rep-I RSPaV-I Rep-I
 Consensus PVM Rep-I ASPV Rep-I RSPaV-I Rep-I

S# F* HHL. S. T. . G. . * R. F. * F. A. . * L. * . L# * . * # P# . . * # # . KI Y. YLRTLKKPD.
 SKFPHHLISIT. KGEAAAPTHRAFGPFEAVASEALKATLSPDYPCAFFPVSYEVVNKI YRYLRTLKKPD#Q
 SSFSHHHLISIT. KGEAI GQKMRRFFNGFEAVAMKGLNP. LRRKVESCLPIISKNTILKI YRYLRTLKKPD#Q
 SKFSHHLLSFTP MGNNLLTSNMRCFSGFDAIGI KDL EP. LSRGMHSCFPVHHDVVTKI YLYLRTLKKPDKE

Consensus PVM Rep-I ASPV Rep-I RSPaV-I Rep-I
 Consensus PVM Rep-I ASPV Rep-I RSPaV-I Rep-I

FIG. 4A

SA. AKL. Q. # . P. G#E1 * F. E. F. * L# # ✓
 SAI AKLSQII AEPSGREI DFWECFARLVI (371) ✓
 SAMAKLSSQVCKDPNGYEI KFEEFSKLCL (373) ✓
 SAEAKLRQII EKPTGREI KFI EDFSSLVI (372) ✓

Coresets	* GTFG. GKS. L. - K. * . # . GK. . * FVSPRR#LA. * #. * # K#G. * V. T*E.
PVM Rep-II	(1163)I VGTFGSGKSTLF. KNLLKYAGAKSLDFVSPRRALAEFDKRTVGGMNERGGRAKAGQE. . . NWRVTTLET
ASPV Rep-II	(1372)I LGTFGGKSSLF. KKFIEKSPGKAI TVSPRRSLAESI NHDLGLARVGGK. KTGKSKDLSKVNVRVKTFEL
RSPAv-I Rep-II	(1384)VLGTFGAOKSFLY. KSFMKRSEGKFVTFVSPRRALANSI KNDLMEDDSCKVAKAGRSKKEGWD. VVTFEV

Consensus	F# . # . # . G* . V# . DE . QL * PPGY * DL	# GDP * QS . YD# . # DR . # # # . # . # . # . # .
PvM Rep-II	FLARVEFLTEGQQVVI LDEMQLYP PGYFDLVVSMLKV DVLRLFLVGDP AQS DYDSEKDR LV GAMEENMSVV	
ASPV Rep-II	FI LHLDSI KEGHTVVVI DEIQLFP PGYI DLII LGLKPVNVNII IAGDPCQSDYDCSSDRHIFAGSES DI MRI	
RSpA V-I Rep-II	FLRKVAGLKAGHCVI FDEVQLFP PGYI DLCLLII RSDAFI SLAGDPCQSTYDSQKDRAILGAEQSDI LRL	

Consensus	L. . . Y. # * . S. RF. N* F. . RLP C. . . K. . . T. . . # . . . # . . . # . . .	V L V S S F * E K *
PVM Rep-II	LGAREYYNKYVRSHRFLNCNFIGRLPCEINKDDCTIDEPHI MRMHLL	ENLDVAEEYKS VVLVYSSFDEKMK
ASPV Rep-II	LSGRSYKFNI LSQRFRNPVFYGRILPCCNLNKTRTLDEEYTLDWSI	QEFSMMGRKDCPV. VL VSS FEEKK
RSPPaV-1 Rep-II	LEGKTYRYNIESRRFVNPMFE SRLPCHFKKGSMTA AFADYAI	FHNMMHDFLLARSKGPL DAVLVSSFEEKK

FIG. 4B

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I YPRH* * D . TFL MAV . KRL . FS . P . E . * L * A * # GK * LL * . FL . . PL# . * H# . * EA* . . EA* . . F
 I YPRHRASDTVTFLMAVKKRLSFSNPGKEKGNLFHAAASYGKALLSEFLKRVPLKPNNVRFMEEAL . WNF
 I YPRHKGTDTATFLMAVKKRLSFSSSPAAEHAKLRRAKPFGKFLLDTFLKRVPLNSSHDEKMMQEAV . HAF
 I YPRHKGNDSITFLMAVRKRLKFSKPQVEAAKLRRAKPYGKFLLDSFLSKIPLKASHNSI MFHEAV . QEF

Consensus
PVM Rep-II
ASPV Rep-II
RSPAv-I Rep-II

E . KK . SKS# ATI ENH . GRSC# DW . D# A* I F * KSQ . CTKFDNR . R# AKA* Q* * CFQH# VL . RFAPYMR
 EEKKL SKS AATI ENHS GRSC RDWP T DVAQI FSKS QLC TKF DNR . FVAKAAQSI VCF QHAVL CRFAP YMR
 EEEKKL SKSMATI ENHS GRSC EDWP VDKALI FMKS QLC TKF DNR . FRSAKAGQTTLACF QHS VL CRFAP YMR
 EAKKASKS AATI ENHAGRS CRDWLLDVALI FMKS QHCTKFDNR . LRVAKAGQTTLACF QHAVL VRFAP YMR

Consensus
PVM Rep-II
ASPV Rep-II
RSPAv-I Rep-II

YI E . K . . . L . . N . YI HSGK# * # L . . WV . * . F . * # CTE SDYEAFDASQD* FI * AFEL . . MK * L * LP .
 YI EMKVHEVLPKNYYI HSGKGLEELDAWKKGK . FDRI CTESDYEAFDASQDEFI MAFELELMKYLRLPS
 YI ESKVTEVLPKKNLYI HSGKNNIDDLAAWVTTSK . FNGVCTESDYEAFDASQDHFI LAFELEVMKFLGLPS
 YI EKKLMQALKPNFYI HSGKGLDELNEWVTRTG . FTGI CTE SDYEAFDASQDHFI LAFELQIMKFLGLPE

Consensus
PVM Rep-II
ASPV Rep-II
RSPAv-I Rep-II

DLI . DY . FIK . * LGSKLG* F . I MRF * GEASTFLENT * ANMLFTF * RY . * G . E . I . FAGDDMCA* # RL .
 DLI EDYKFI KTSLSKLGNAI MRFSGEASTFLENTLANMLFTFMRYNI RGDEFI CFAGDDMCASRRLQP
 DLI ADYTFIKTHLGSKLGSFAI MRFGEASTFLENTMANMLFTFLRYDLNGREAI CFAGDDMCANSRLKV
 DLI LDYEFI KI HLGSKLGSFSI MRFGEASTFLNTMANMLFTFLRYELTGSESI AFAGDDMCANRRLRL

Consensus
PVM Rep-II
ASPV Rep-II
RSPAv-I Rep-II

FL . I . LKAKVQF# PTFCGW . L . . G# * KKP# L . . ER . # I A* E# . NL * NCI DNYAI E
 TKXF AHFLDKLKLAKVQFVQFVN . . KPTFCGWHLCPDGI YKKPQLVLERMCI AKEMNNLSNCI DNYAI E
 TNRF SNFLDKI KLAKVQFTAT PTFCGGWGLCEHGVFKKPDLVLERLQI ARETRNLENCI DNYAI E
 KTEHEGFLNMI CLKAKVQFVSN PTFCGGWCLFKEGI FKKPQLI WERICI AREMGNLENCI DNYAI E

Consensus
PVM Rep-II
ASPV Rep-II
RSPAv-I Rep-II

V* # AY . # GE . # . . . # * # EV . A* YNCVR* . V# # # H
 VAYAYKLGKAVNRMDEEVAAFYNCVRIIVRNKH
 VSCAYKMGGENLNLYLTTPQEVDAHYNCVRFIVQHNN
 VSAYAYRLGELAIEMMTEEVEAHYNCVRFIVRNKH

Consensus
PVM Rep-II
ASPV Rep-II
RSPAv-I Rep-II

FIG. 4C

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Cysteines	M . . # . L . . * F L . . P . V . H . VPG*GK#LI # # . . . # . . A . T # GV*# . # . G . # ! . .
PVIM25K	MDVI VDLLYKYKFERLNSNKL . VCPI VVHCVPGACKSSLI RELLELD SRFCA YTAGVEDQPRRLSGNWI RKW
ASPV25K	ME TVLSLLNEFGFERTVEPL . SDPI VVHAPCGSCKTTLI KQALI IRNNNI EAVTFGYPEKANI HGTYI KKA
RSPDV-1244K	MNNLVKALSAFEFVGVESVL . KEPVVI HSVP <u>GSGKSSLI</u> RELI SEDENFI AFTAGVPDFSPNLTCRVI KPY

Majority	#. G....G#...LDEY*	*. *..*.	LF*DP*Q.N.#....A*F*#.	RFG..T#..L...G..#.
PVM2K	S-GQQPEGKFVVLDEYTLL	-.	TEVPPVFALFGDPIQSNTSAVQRADFVCVSRRFGSATCGILRELGWNNVR	
ASPV2K	RQGQRGRGNYSI	LDEYLSG	EYSTGFNCLFSDPYQ.NHGDCLRRAHF1	GRCSSHRFGRQTVQLRDLGYNI A
RSPAV-124AK	SPGCCAVPGKVNILDEYLSV.	QDFESGFDVLFSDPYQ.NISIPKEAHFI	KSKTCRFEGVNTCKYLSSFGFKVS	

Majority	... S . . . D . V . # . . * # . . . * G . * . . * # . . . * H . E . * . * # . * G . T F . # # .
PVM2K	... SEKADL VQVSDI YTKD . PLGKVVFSEEEVGCLLRSHGVEALSLQEITGQTFEEVVTEVTSENSPVI NRRA
ASPV25K	... SSKEDI VEKKNI FQLIEPGVI ICLEKGVEDFLKWHSEVEYKFPQCVRGATFDIVTFIHEKPLEELVGP
RSF2V12A4K	... SDGLDKWIVGSPFTLDV . EGVLI CFGKEAVDLAVAHNSEFKLPCEVRGSTFNVTLLKSRDPTPEDRH

Majority # . TRHR.
PVM 25K	AA. YQCMT HRRRLC. TSVS
ASPV 25K	DL. FVALTRHRSKL. VLVS
RSPV 124.4K	WF. YI AAATRREKLI. IIMQ

FIG. 5A

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M P * . * . . . P . . . K . . . * G . . . # V . . . # L . . . S . L P . . G D * . H . P H G G . Y # D G T K # . Y * P . . *

M P * . . . L T P P P D F T K V Y L S A A L G V S L A L V V W L L I R S T L P V V G D R D H N L P H G G W Y R D G T K S V F Y N S P . . . G

M P F A Q . . . P P D Y S K S V F P I A V G I A V A V V L F T L T R S T L P Q V G D N I H N L P H G G N Y Q D G T K R I S Y C G P R D S

M P F Q Q . . . P A N W A K T I T P L T V G L G I G L V L H F L R K S N L P Y S G D N I H Q F P H G G R Y R D G T K S I T Y C G P K Q S

Majority	PWM 12K	RLNSIEARKAPLLGQPWAIVVLLVL...	LI WASHKLCRPNCR.	ACA...	GS...	HT
	ASPV 12K	FPSSSLI S.	SGTPM I GI I I	FLI FAI YVSEKWSRSSGRRCS	CCVPGAPACTATVHE	
	RSPAv.1128K	FPSSGIFGQSENFPVPLML VI	GLIAFIHVLSVWN.	SGLGRNCCNCHP	NPCCSCRQQ	

FIG. 5B

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Majority	CGSFRS	VSAVEEIDYHOC
PWM7K		
ASPV8K		
RSFV1.84K		

FIG. 5C

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Consensus * TLR# . C . YA* . *WN . L . * . PPA*W# . *#F . . . #A*FD*F . *V . . . #**P . . G . . R . PT . *E
PVM CP (188) DAETLRRVCRLYAPVTWNHMLTHNAPPAEWAAMGFQYEDRFAPFDCCFDYVENTAAVQPLEGLIRRPTPRE
ASPV CP (301) EGCTLROYCAYKHHWNLMQTQSPPANWWGKEFKFETRYAAFDFFFGVESTASLEPADGLIRLIPTQAE
RSPAv.1CP (142) EVTTLRRFCMYYAKI VWNHLETGIP PANWAKKGFNENEKFAAFDFFLGVTDESALEPKGGIKRAPTKAE

Majority . VA* . * . * . R . # . . * * . # # . * E . GG . . G
PVM CP KVAHNTHKDI AL . RGANRNQVFSSLNAEVTCGMNGPELTDRDVKSNRK
ASPV CP RVANATSKEI QMYRI RSMEGTQAVNFGEVTGGKIGP . . KPVLSI . RK
RSPAv.1CP MVANI ASFEVQVLRQAMAEGKRSSNLGEISGGTAGALINNPFSNVTHE

FIG. 5D

Consensus	... G. T. A. . A. A. T C. . C. . C A. T T C. T. C A. T A. T T . . . C. . T T T. . . A A. G. T G. A. C C T.
ASPV 3'UTR	TAGTTAATTATTCTCCTGCA. TTCAAT.. T T C A G T A C T T A T G C T T A G T A A A G T G A T C C T G A C C T A A C
RSPrV-1 3'UTR	.. GGATGACGAAGTCAGGCCAACATTCCAAATAATTCCCCGATTT.. CAAGGGCTGGGTAAAGCCTGTT
Consensus	CG. . G G. . . . C. . T. GT. T. TT. C A T G C T. . A. C. T A T T T. T G T.
ASPV 3'UTR	CG.. G G G C G C T A T G T. G T G T G T T C A T G C T T A G C T T A T T T T. T G T.
RSPrV-1 3'UTR	C G C T G G A A T A C C G T A C T T A A T A G T A T T C C T T C A T G C T A A A T C C T A T T A A T A A G G T G T G G A A A G T A A

ConsensusTTT.....TTT.....TTT.....
ASPV 3'UTRTTAAC.....TTAAC.....TTAAC.....
RSPAV-1 3'UTR	AAGAAGATTGGTGTGTTATAGTTTCATTG	AAGAAGATTGGTGTGTTATAGTTTCATTG	AAGAAGATTGGTGTGTTATAGTTTCATTG

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FIG. 6A

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Consensus
PVM 3'UTR
RSPaV-1 3'UTR GGATGACGAAGTCAGCGACAAATTCCCGAGTCCAATAATTCCCCGATTCAAGGCTGGTTAAGCCTGTTCGCT

Consensus
PVM 3'UTR
RSPaV-1 3'UTR GGAATACCGTACTAATAGTATTCCTTCCATGCTAAATCCTATTATAAGCTGTGGAAAGTAAGAA

Consensus A. A. TTGGT. T. T. . TAT. . TTTT.....
PVM 3'UTR AAACTGGTTAACATAT. . TTTTAGCCA
RSPaV-1 3'UTR AGATTGGTGTGTAGTTTCAATC

FIG. 6B

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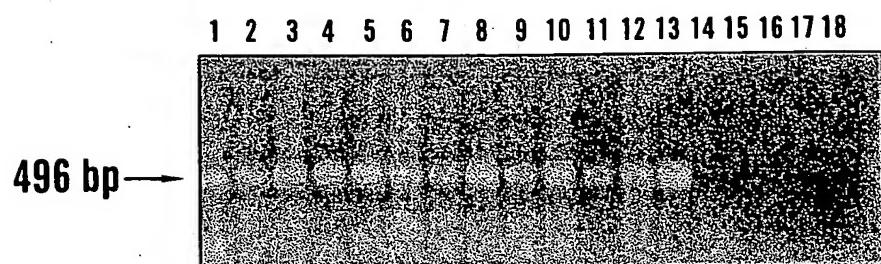


FIG. 7A

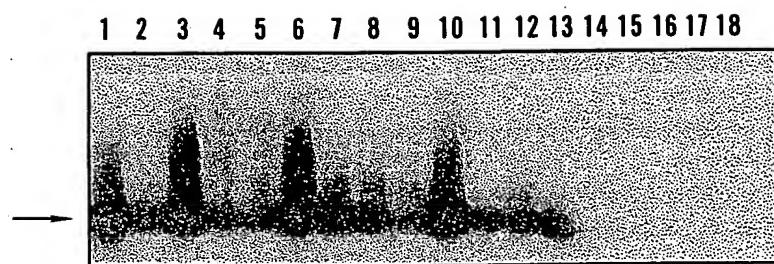


FIG. 7B

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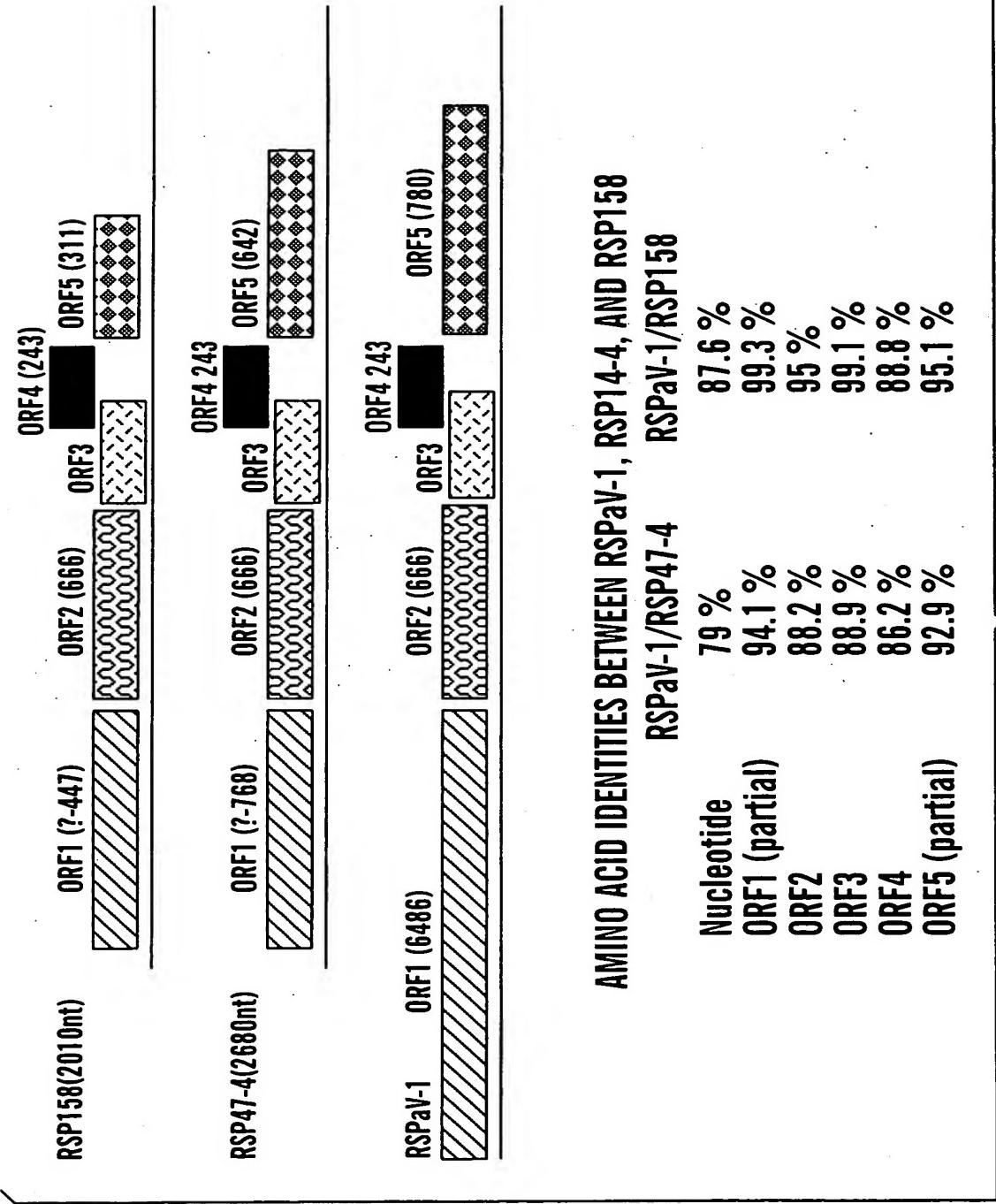


FIG. 8

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FIG. 9

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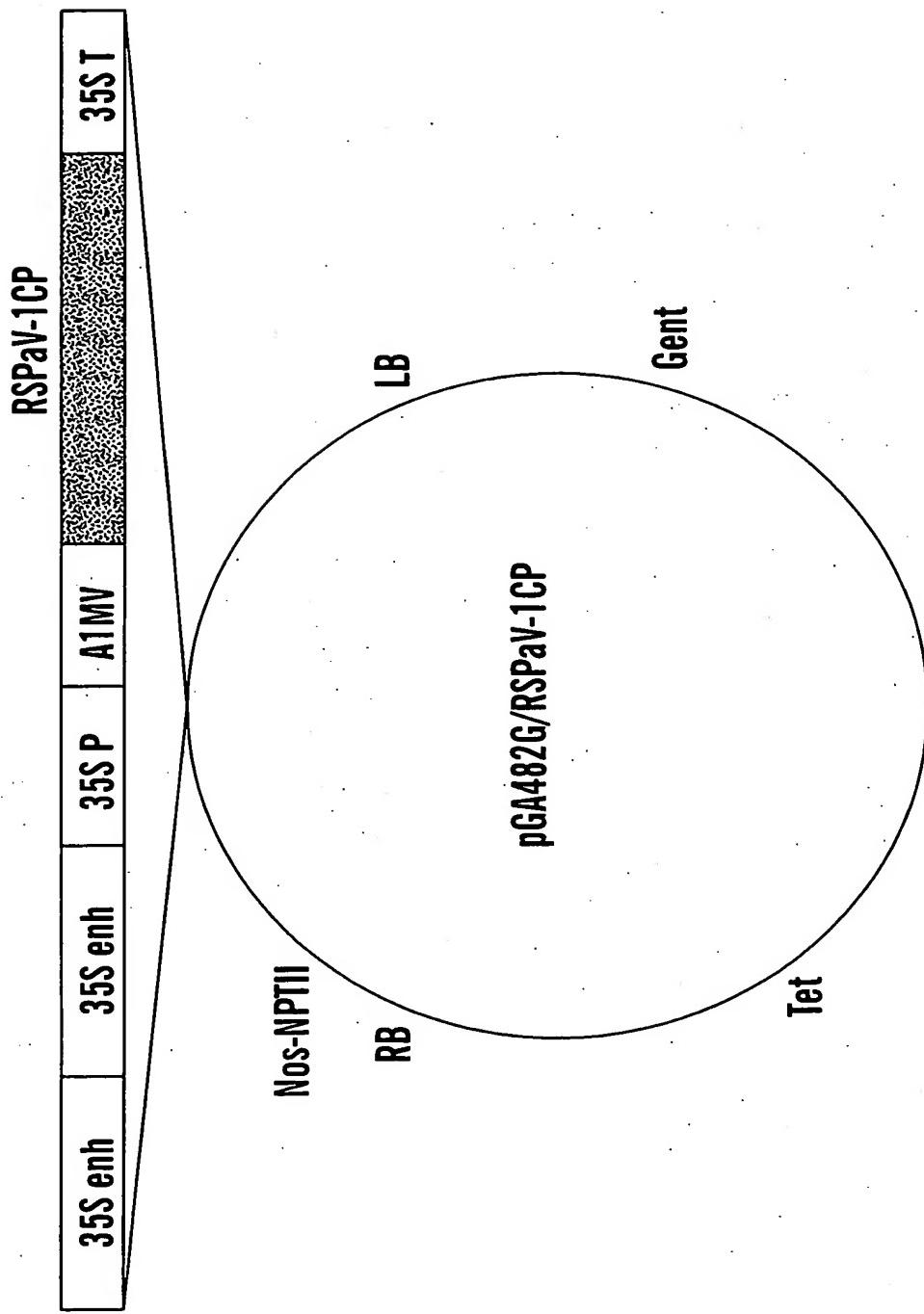


FIG. 10